REMARKS

Present Status of the Application

Applicant thanks the Examiner for the thorough examination of this application. However, claims 8-11 are rejected under 35 U.S.C. Section 112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8-11 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Lee (US Pub. No. 2005/0083279; hereinafter "Lee").

In response thereto, Applicant has amended claim 8 to more clearly define the present invention. Applicant has canceled claims 10 and 11, such that all of claim rejections as set forth in the Office action should be withdrawn accordingly. The amended claim 8 is fully supported by the present specification without adding new matter. After entry of the foregoing amendments, claims 8 and 9 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Claim Rejections under 35 U.S.C. 112

Claims 8-11 are rejected under 35 U.S.C. Section 112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response thereto, Applicant clearly defines variables for M and N in the currently amended claim 8. As such, the claim rejections under 35 U.S.C. 112, 2nd paragraph, as set forth in current Office action should be withdrawn accordingly.

Discussion of Claim Rejections under 35 U.S.C. 103

Claims 8-11 are rejected under 35 U.S.C. Section 103(a) as being unpatentable over Lee.

In response thereto, Applicant has amended claim 8 to clearly define the present invention, upon which Applicant hereby otherwise traverses these rejections after entry of the proposed amendments. Specifically, Applicant respectfully submits that the present application as set forth in the currently amended claims 8 and 9 is novel and patentable over Lee, or any of the other cited references, taken alone or in combination, and thus should be allowed.

With respect to the currently amended claim 8, it recites in all below:

"A pixel array, comprising:

M*N pixels, each row of the pixels having a plurality of pixel sets, wherein

the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the ith row of the pixels substantially have same driving polarity, and all of pixels in the $(j+1)^{th}$ pixel set of the ith row of the pixels substantially have same driving polarity, where M, N, i and j are positive integers;

the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the $(i+1)^{th}$ row of the pixels substantially have same driving polarity, and all of pixels in the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have same driving polarity;

the jth pixel set of the ith row of the pixels and the jth pixel set of the $(i+1)^{th}$

row of the pixels substantially have different driving polarity; and

the $(j+1)^{th}$ pixel set of the ith row of the pixels and the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity;

a plurality of data lines for respectively providing a corresponding pixel voltage, wherein the polarity of the pixel voltage provided by the kth data line is opposite to the polarity of the pixel voltage provided by the $(k+1)^{th}$ data line, where k is a positive integer; and

a plurality of gate lines, wherein the rth gate line is merely used for turning on all odd pixels in the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels and all even pixels in the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels, where r is a positive integer."

Applicant respectfully submits that the present invention is directed to a pixel array using 3N*1 inversion driving method for reducing the cross talk effect on condition that adjacent data lines alternately provide opposite pixel voltages in mutually reverse polarities (for example, $+-+-+-+-$ or $-+-+-+-$), so as to achieve the purpose that the coupling capacitances of two adjacent data lines at right and left sides of each pixel are substantially subtracted, and thereby the aperture ratio of each pixel and the stability of displaying the gray scale picture are enhanced at the same time.

Please refer to the features of the currently amended claim 8. It is clearly known that the structure of the pixel array and the pixel voltages provided by two adjacent data lines at right and left sides of each pixel are opposite to each other, so that when the pixel

array conducts the 3N*1 inversion driving method, the purpose of reducing the cross talk effect is achieved so as to enhance the aperture ratio of each pixel and the stability of displaying the gray scale picture at the same time.

In addition, since the pixel array is conducted the 3N*1 inversion driving method, so that the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the ith row of the pixels substantially have same driving polarity (for example, + + +), and all of pixels in the $(j+1)^{th}$ pixel set of the ith row of the pixels substantially have same driving polarity (for example, − − −).

Moreover, the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the $(i+1)^{th}$ row of the pixels substantially have same driving polarity (for example, − − −), and all of pixels in the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have same driving polarity (for example, + + +).

Accordingly, the jth pixel set of the ith row of the pixels and the jth pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity; and the $(j+1)^{th}$ pixel set of the ith row of the pixels and the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity.

However, according to the Drawing 2 on the page 5 of the current Office action, even though the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels substantially have different driving polarity, but all of pixels in the jth pixel set of the ith row of the pixels

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substantially **have not** same driving polarity (i.e., $+-+$), and all of pixels in the $(j+1)^{th}$ pixel set of the ith row of the pixels substantially **have not** same driving polarity (i.e., $-+-$).

In addition, even though the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity, but all of pixels in the jth pixel set of the $(i+1)^{th}$ row of the pixels substantially **have not** same driving polarity (i.e., $-+-$), and all of pixels in the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially **have not** same driving polarity (i.e., $+-+$).

According to the teachings of Lee cited by the Examiner, the pixel array taught therein **is not able** to conduct the 3N*1 inversion driving method for reducing the cross talk effect on condition that below:

1. The adjacent data lines alternately provide opposite pixel voltages in mutually reverse polarities, i.e., "$+-+-+-+-$" or "$-+-+-+-$";

2. The jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the ith row of the pixels substantially have same driving polarity, and all of pixels in the $(j+1)^{th}$ pixel set of the ith row of the pixels substantially have same driving polarity, where M, N, i and j are positive integers;

3. The jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity, wherein all of pixels in the jth pixel set of the $(i+1)^{th}$ row of the pixels substantially have same driving polarity, and all of pixels in the $(j+1)^{th}$ pixel set

of the $(i+1)^{th}$ row of the pixels substantially have same driving polarity;

4. The jth pixel set of the ith row of the pixels and the jth pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity; and

5. The $(j+1)^{th}$ pixel set of the ith row of the pixels and the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity.

Furthermore, in the present invention, the rth gate line is **merely** used for turning on all odd pixels in the jth and the $(j+1)^{th}$ pixel sets of the ith row of the pixels and all even pixels in the jth and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels.

However, in Lee and according to the Drawing 2 on the page 5 of the current Office action, the rth gate line would turn on all of pixels in the ith row and $(i+1)^{th}$ row of the pixels, such that it is different from the present invention.

Therefore, Applicant respectfully submits that the currently amended claim 8 is novel and patentable over Lee, or any other cited references, taken alone or in combination, and thus should be allowed.

If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). As a result, claim 9 depending upon the allowable independent claim 8 also should be allowed as a matter of law.
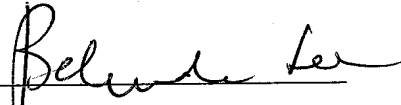
CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 8 and 9 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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